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FURTHER NOTES ON *HELIX HORTENSIS* IN NEW ENGLAND.

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About 1834 Amos Binney collected and later described (Boston Journ. Nat. Hist., vol. i, p. 485, pl. 17, 1837) a form of *Helix hortensis* as *Helix subglobosa*, stating that "it is common on the lower part of Cape Cod and on Cape Ann, and is very abundant on Salt Island, a rocky, uninhabited island near Gloucester." Salt Island being the only exact locality mentioned might therefore be considered the type locality of this form. Binney had evidently at that time not seen a banded form from North America, for on page 487, in comparing these with the *Helix hortensis* of Europe, he says: "Ours being yellow, with an olivaceous tint and destitute of bands, while that is remarkable for its great diversity of coloring and brilliant zones."

Again referring to the species under *Helix hortensis* in his "Terrestrial Air-breathing Mollusks," vol. ii, p. 112, he says: "The prevalent character of this and probably of other species in a given locality seems to undergo a considerable change from time to time. When I first visited Salt Island, where this species abounds, ten years ago, it was impossible to find a single specimen with either lines or bands, one uniform color prevailed throughout. At the present time the banded varieties are said not to be uncommon."

Recently I obtained from Salt Island a number of specimens, all representing the plain olivaceous yellow form described by Binney as *H. subglobosa*. Not a single banded form could be found on the island. On the other hand, on Briar Neck, a rocky promontory only

one-fifth of a mile from Salt Island, to which one can walk at low tide, only the banded form—12345 and occasionally 10345—could be found. Note that Binney in his second work says, “banded varieties are said not to be uncommon.” This would indicate that he did not visit the island a second time, and that there is no positive proof that the banded varieties referred to came from there. They were probably found on the near-by promontory.

At Bass Rocks, one-half mile southwest of Briar Neck, and separated by a sandy beach, marsh and creek, both the plain and banded forms occur in almost equal numbers. The yellowish-white form, *subalbida* Locard, comprise about one-half of those classed as plain, the other being the bright yellow form, often with an obsolete brown or translucent band. The banded forms show the following variations: 12345, 123(45), 12045, 00300. After a shower I found these in numbers, but only along the narrow strip of natural growth left between the road and high-water mark. This strip being traversed by a walk, many were crushed under foot by pedestrians. I next visited Emerson Point (“Land’s End,” Rockport), about two miles northeast of Briar Neck, from which it is separated by Long Beach and a small creek. Here I found both the plain and banded forms, only about 25 per cent., however, being banded.

It seems quite interesting that in the four localities above mentioned, the shells from the two nearest together (Salt Island and Briar Neck) show scarcely any variation in their respective stations, while those found on either side are considerably diversified, and that the form *subglobosa* on Salt Island has undoubtedly remained unchanged since Amos Binney collected it there about eighty years ago.

During the month of July Dr. J. A. Cushman, while collecting material with Prof. J. S. Kingsley in Casco Bay, Maine, visited a number of the islands and made a very interesting collection of *Helix hortensis*, adding materially to our knowledge of its distribution. On the western portion of Brown Cow Island, 96 specimens were collected, of which six were banded—12345; nine had pale translucent bands—v. *arenicola*, and the remainder were the v. *subglobosa*. From the eastern portion of the island the material contains 35 v. *subglobosa* and six banded—12345; among the latter there was a tendency for bands one and two to fuse toward the margin.

From Inner Green Island the collection contained 160 plain ; 16 banded—12345 ; 3—00300 ; band three is somewhat obsolete, and bands one and two are frequently more or less fused toward the margin ; a few with translucent bands.

The collection from Swan Island of 43 specimens are all banded—12345, and show but little variation.

The specimens from White Bull Island show perhaps the greatest variation of any New England locality. The following variations were represented in a series of 95 specimens ; 6 *subglobosa* ; 4, 00300, band usually obsolete except near the margin ; 2, 00340, band four obsolete except near the margin, and bands one and five very slightly indicated near the margin ; 68, 12345 ; 10, (12)345 ; 1, (123)45 ; 3, (12345). The species has not before been recorded from the last two mentioned islands.

On Eastern Mark Island only *Pyramidula alternata* Say, and *Polygyra albolabris* Say, were found, with one sinistral specimen of the latter. On Jaquish and Turnip Islands only *Pyramidula alternata* was found.

LAND SHELLS COLLECTED ON THE BIMINI ISLANDS, GUN AND
CAT CAYS, BAHAMAS.

BY GEORGE H. CLAPP.

In May 1912 the writer with J. B. Henderson and Charles T. Simpson visited the Biminis and adjacent keys in the yacht *Eolis*. The object of the expedition was primarily for the collection of marine mollusks along the edge of the Gulf Stream which almost touches the shore of these islands ; considerable effort was made however, to secure a full list of the land shells and the following represents the results of some hard work under a very hot sun. The identification of these shells was made under the difficulties always presented by a fauna that consists of a mixture of several elements and where the various races of species through isolation have taken on characteristics differing slightly from the typical. The astonishing abundance of *Cepolis varians* is worthy of comment. For the most part, however, land shells are not abundant on these islands, even the Cerions, that standby of collectors in the Bahamas, are only to be gathered in a few restricted localities.